

Heated Chemiluminescence Nitrogen Oxides (NO_x/NO/NO₂) Analyzer

EMISSIONS & PROCESS MONITORING SYSTEMS



SPECIFIC FEATURES:

- Use of the CLD principle for continuous and simultaneous measurement of NO, NO₂ and NO_x, in compliance with EN 14792 and US EPA 40 CFR 75.72
- High accuracy, sensitivity and stability
- Heated analyzer (temperature controlled up to 180°C)
- Fast response time (<2 sec)
- Graphic LCD Display with interactive menu driven software and enhanced speed display
- Built-in memory for data storage
- AK protocol communication (RS232)
- Built-in Ethernet connection and serial interface RS232

2 different versions:

- TOPAZE 32M-S: NO or NO_x monitoring
- TOPAZE 32M-D : NO-NO_x and NO₂ simultaneous monitoring

MAIN APPLICATIONS:

- > Combustion efficiency
- > Engine exhaust gas & automotive emission testing
- > Compliance & process monitoring
- > Laboratories and Research Centres
- > Efficiency control on DeNO_x SCR units



Integration example
in motors gas analysis bay

COMPLIANCE WITH:

EU Regulation IED (WID / LCPD / MCPD directives)
and US EPA (40 CFR 60 & 75)



U.S. EPA APPROVED
40 CFR 60 ET 75

Heated Chemiluminescence Nitrogen Oxides Analyzer **TOPAZE 32M****PRINCIPLE OF OPERATION:**

Topaze 32M analyzer uses the proven Chemiluminescence principle for the measurement of NO/NO_x.

In the NO mode, the chemiluminescent reaction between ozone (O₃) and nitric oxide (NO) produces nitrogen dioxide (NO₂) and oxygen. This reaction produces light whose intensity is proportional to quantity of NO being sampled.

In the Total NO_x mode, and before the reaction chamber where the Chemiluminescence reaction takes place, the sample is first passing through the internal NO₂ to NO converter which converts the NO₂ from the sample into NO. The resulting reaction apply on NO plus NO₂ convert into NO₂ is then directly proportional to the total concentration of NO_x.

The analyzer is equipped with a heated inlet capillary block and measurement chamber, which maintains the sample above its dewpoint to prevent condensation inside the analyzer. The analyzer is microprocessor controlled, with complete gas data, internal diagnostics, alarms, and calibration settings available to the operator via the keypad or remotely.

Via Ethernet or RS232 communication ports, ranges can be automatically or manually/remotely programmed (user selectable). Automatic calibration may be programmed for preset intervals or set remotely.

TECHNICAL SPECIFICATIONS

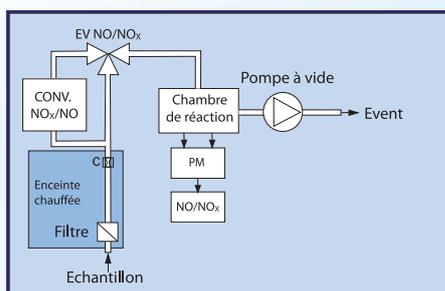
Ranges	0-10/100/1 000/10 000 ppm
Noise (2σ)	< 1% of the Full Scale (F.S.)
Response time	< 2 sec (T 10-90)
Lower detection limit	0.1 ppm on the lowest range
Zero drift	± 1% / 24h
Span drift	± 1% / 24h
Linearity	± 1% for a concentration between 15% and 100% of the full scale's range
Heated block temperature	Up to 191 °C
Sample flow rate	0.7 to 1 l/min at 20 psi
Capillary block temperature	heated up to 180°C
Converter efficiency rate	95 %
Housing	standard 19" - 3U rack
Dimensions	483 x 440 x 135 mm (L x W x H) 19 x 17.3 x 5.3 inches (L x W x H)
Weight	10 kg / 22 lbs
Power supply	230 VAC, 50 Hz / 115 VAC, 60 Hz
Power consumption	350 VA during start up
Operating temperature	+5 to +45°C
Communication	RS 232 & Ethernet (RJ45), AK protocol

MAIN OPTIONS:

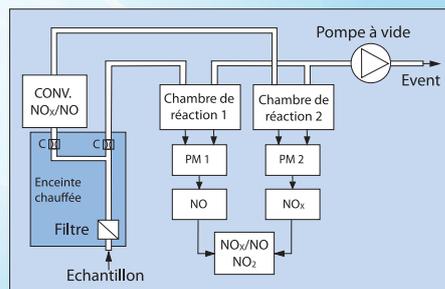
- Internal memory extension
- Heated sampling line with integrated 2μm SS built filter (3 up to 5) to be used built-in heated regulator option
- ESTEL electronic board with:
 - > 4 independent analog inputs
 - > 4 independent analog outputs
 - > 4 remote control inputs
 - > 6 dry contacts outputs
- SOREL electronic board with:
 - > 4 dry contacts outputs
 - > 4 dry contacts inputs
- Special screenless version for engine applications

UTILITIES:

- Power supply:
 - > 230 V, 50 Hz - 115 V, 60 Hz
 - > Consumption 350 VA
- O₂ 100% for the ozone generator for engine applications or synthetic air gas bottle / purified air network for other applications

**Topaze 32M-S**

Equipped with a single reaction chamber, the TOPAZE 32M-S allows continuous and accurate NO or NO_x monitoring.

**Topaze 32M-D**

Equipped with a dual reaction chamber and 2 PM tubes: the TOPAZE 32M-D allows simultaneous measurement of NO, NO_x and NO₂.

